GEOGRAPHIC SCHOOL BULLETINS

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VOLUME XXXVI, NUMBER 24, MARCH 31, 1958 . . . *To Know This World, Its Life*

► Little Lebanon

► Meteorites

► Spring Songbirds

► Malta Teacher

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BA'ALBEK'S towering ruins tell of Lebanon's past glories. Phoenicians built a temple to Ba'al here, then Romans put up their own structures, including these Corinthian columns, more than 60 feet high. At one time, Moslems used the temple as a fortress.

MELVILLE BELL GROSVENOR

HAPPY EASTER! Due to the annual spring vacation, the next issue of the *Geographic School Bulletins* will appear on April 14.

try cousins may lug gasoline cans filled with farm vegetables (right).

Signs in English, French, and Arabic entice customers into shops. Soft drink advertisements suggest American Main Streets. Shoppers, strolling in Western garb, may pass a flock of sheep hurried on by a robed shepherd.

In 44 countries of the world, alumni wistfully remember their alma mater in Beirut—American University, founded by American missionaries in 1866.

Men of commerce eye Beirut for a different reason. Its teaming docks handle grains, tobacco, olive oil, sesame, and wood. For though Lebanon has scarcely any raw materials, the native bargaining sense outweighs the deficiency. The nation thrives on trade.

Lebanon's geography is as varied as its colliding cultures. Excellent roads lead from Beirut with its seaside cabanas to the ski slopes of the Lebanon Mountains. One peak, Qurnat as Swadā, tops 10,000 feet. Below it linger regal "cedars of the Lord," some 1,000 years old. Phoenicians used the wood in galleys, Pharaohs in their solar boats, Solomon in his Temple.

Eastward, the fertile Al Biqā' Valley lies like a green carpet. Its eastern edge laps arid foothills of the Anti-Lebanon Mountains—frontier country along the nervous Syrian border. S. H.

FARMERS put about a fourth of Lebanon under the plow—often just a sharp pole drawn by oxen. Most farms, even in Al Biqā', are narrow strips. On hillsides, soil is cursed with rocks. Costly farm machinery would save nothing but time. As one Lebanese farmer put it, "Time is one thing with which we are well stocked."

Harvesters below take a break from plowing up potatoes. Beside a New Englandlike stone wall, they pass around the traditional clay water jug.

PHOTOGRAPHS BY THOMAS J. ABERCROMBIE, NATIONAL GEOGRAPHIC STAFF

MELVILLE BELL GROSVENOR

Christian-Moslem Lebanon

A Lebanese official summed it up. "Even though we are a small country, we have much to offer." Thinking in terms of Lebanon's thriving tourist trade, he meant the famed Cedars of Lebanon, the Crusader castles, the ruins at Ba'albek, where imposing columns (see cover) rival those of Athens and Rome. He meant Beirut, the capital. Seen from the Mediterranean (above) it flaunts luxury hotels above a foreground of swirling, shouting water skiers.

This outward face of Lebanon seems oblivious to tensions electrifying next-door Syria and Israel, near-by Jordan, Iraq, and Egypt. But Writer-Photographer Thomas J. Abercrombie, in this April's *National Geographic*, got behind the holiday façade. He realized that Lebanon has learned to live with Near Eastern ups and downs since antiquity. Rameses II led his Egyptian troops through it 13 centuries before Christ. Phoenician ships swept out of Tyre and Byblos to spread an empire as far as western Europe. Assyrians and Greeks stormed the land. Beirut was a Roman settlement at the dawn of Christianity.

An independent nation since France turned it loose 15 years ago, Lebanon lies in the midst of the new federations that are aligning factions in the Arab World. Smaller than Connecticut, it remains apart from these unions.

Beirut mills with a third of Lebanon's 1,500,000 people. The city's almost equal numbers of Christians and Moslems make amicable neighbors. Girls sun-bathe along beaches, clad in Bikinis. Yet their neighbors may wear veils. And their coun-

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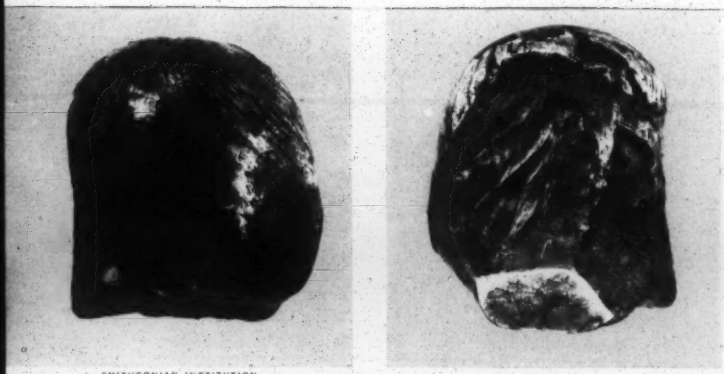


SMITHSONIAN INSTITUTION

FREDA meteorite, named for the North Dakota township where it was found, is seen here life size. Front and back views show how metal melted away at the nose, making it as round as a bullet. Scientists think Freda fell recently.

ton meteorite back from Greenland in 1895, 14 years before he reached the North Pole. Willamette, Oregon, claims the largest chunk to fall in the United States—a fifteen-and-a-half-ton monster. But Arizona's Meteor Crater, 4,000 feet in diameter indicates that a massive space traveler struck home there some 30,000 years ago.

An even larger crater dents the barrens of northern Quebec. Explored by a joint expedition of the National Geographic Society and the Royal Ontario Museum in 1951, Chubb Crater was found to be about two miles in diameter, with a total depth of 1,325 feet. Exhaustive measurements of magnetism around the crater found evidence that a giant missile had once slammed into the tundra, causing a tremendous, searing explosion. Expedition's story appears in the January, 1952, *National Geographic*.

As the space age dawns, scientists are taking a new, long look at meteorites. Misshapen rubble of the sky, they usually burn to a crisp when they hit atmosphere. Man's rocket missiles, blasting into space, must somehow be designed to return into the atmosphere without suffering the same fiery fate. E. P.

CHUBB CRATER holds a clear, deep lake inside 400- to 500-foot wall of strewn boulders. Expedition leader Dr. V. B. Meen, right, reported that a huge meteorite gouged this hole.

RICHARD H. STEWART, NATIONAL GEOGRAPHIC STAFF

NATURE'S NOSE CONE

NO matter what the song says, don't try to "catch a falling star." That streak of light, high in the night sky, is a blazing chunk of molten mineral, about 4,000 degrees Fahrenheit, traveling at up to 150,000 miles per hour. It's too hot to handle.

It has been gliding silently through space for unknown millenniums, a jagged, irregular particle called a meteor. Then it nears Earth, feels the tug of gravity, and veers toward this misty, bluish planet of ours.

Plunging toward Earth's surface, it smashes into the first thin beginnings of atmosphere about 80 miles up. What vestiges of air there are compress in front of the streaking missile. The compression produces fantastic heat, turning the object incandescent.

As it continues to plummet, the atmosphere becomes thicker, the compression more intense, the temperature hotter. The visitor from space changes its name —it becomes a meteorite when it enters Earth's atmosphere. It also changes shape. Molten bits slough away from its nose, leaving it rounded like a bullet.

Hundreds of millions of meteorites crash into Earth's atmospheric blanket every day. Almost all are completely consumed by the heat they generate. Five or six a day make it down to the surface, plunking into an ocean, a desert, or perhaps a farm in North Dakota. In all mankind's history, only about 1,700 definite meteorites have been found. Not once, as far as is known, has a human being been killed by one.

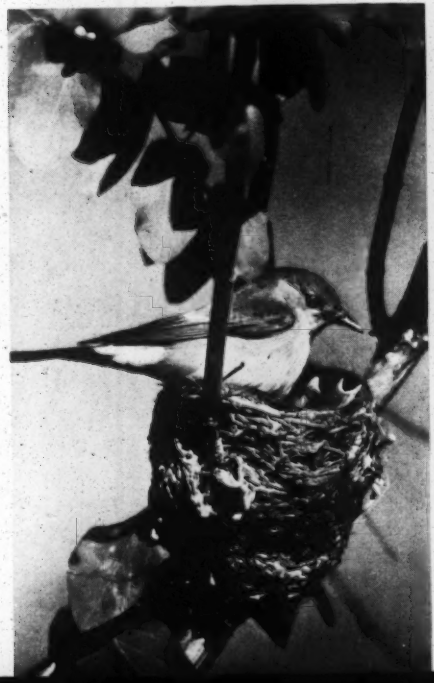
Origin of meteors is still in doubt. One theory has it that they are remnants of a planet that once circled the sun between Mars and Jupiter. They fall into two main groups. Stony meteorites resemble the minerals thrown up by volcanoes. Iron meteorites are nearly all alloyed with nickel. Traces of other minerals, copper, phosphorus, cobalt, and sulphur, sometimes appear.

To amateur eyes, both types look like curiously deformed rocks. Skeptical scientists used to think they were simply lightning-blasted stones. When two Yale professors spotted the fall of a meteorite in 1807, President Jefferson allowed that it was easier to believe that they would tell a lie than that stones should fall from heaven.

Some big ones have smacked into Earth. Robert E. Peary brought a 66-

JUST as Americans in different parts of the country have different accents, birds of the same species sing with a varied pitch. A wood thrush, right, that lives in a garden may chirp with a different accent from his woodland cousins. Expressive and gay, this flutelike voice reminds you of a happy debutante gossiping about her latest beau on the telephone.

(ABOVE AND BELOW) S. A. GRIMES

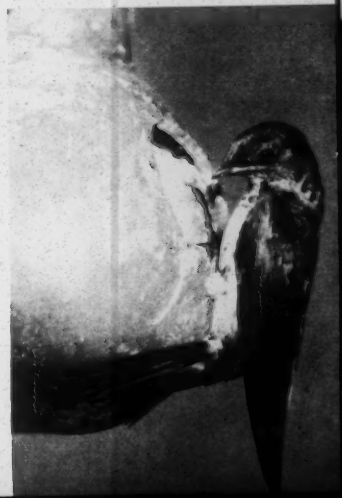


(LEFT AND CENTER) ARTHUR A. ALLEN

MOST vivacious of all are the warblers. The redstart, left, is called "little torch" by the Cubans. He sounds like a nervous alarm clock. The brilliant yellow warbler, above, chirps like a charming child begging for a sweet.

LARGEST of the swallows, the handsome purple martin chooses to live in the vicinity of man's dwellings, even in cities. Since Indian days, people have tried to lure this popular fellow to their homes with painted gourds and martin boxes. Everyone loves his loud, rich chirruping and odd spluttering trills.

As with many birds, the name comes from the coloring of the male. The female martin, right, is not the vivid blue-black of her mate, but a mottled gray, with whitish chin, throat, and breast.



Throw Open Your Window and Listen To

Spring's Lyrical Heralds

GEORGE SHIRAS 3RD

A VIRTUOSO performer, the mockingbird, above, sings a night song that rivals the nightingale's. Yet some ambitious males imitate as many as 50 other bird songs as well.

SYMBOL of happiness, herald of spring, the gentle bluebird, right, gurgles a soft "*chur*-ree" from her nest in an old apple tree. This favorite has a tough time finding a home, for sprawling cities engulf more farm land and orchards each year.

FRANCIS H. HERRICK

SONGBIRDS are sweeping up from the South like a feathered flood. Led by bluebirds and redwings, they spread through forests, pause at the edge of meadows, invade quiet suburbs, covering sometimes 23 miles a day.

Searching for nesting places, they fill the new spring air with songs that stir the winter-weary soul of mankind. Calendars may remind us that spring is here. But not until the warbling music of songbirds wakes us at dawn do we know it is so. Then, no matter how chilly an April day may be, the neighborhood seems to grow warm with each note. K. C.

ARTHUR A. ALLEN

BIRD of distinction, the cedar waxwing, above, is the only sleek brown bird with a long crest. He looks like a city slicker, lives in the country, and wheezes a high, thin lisp.

selor. He was efficiency personified, as I had always imagined Americans to be. Everything went smoothly from that first hamburger at the campus hangout, "The Cage," to my last good-bys to the Ullsviks, that generous family that took another teacher from Singapore and myself under their roof. Imagine! A teacher from Singapore and another from Malta living together in an Illinois home owned by people named Ullsvik!

With my Singapore friend, I snatched every opportunity to learn more about America and Americans. Results of my experiences I pasted each week in an album of snapshots (above). Before our first football game, some of us went down to the locker room where we tried on the team's football helmets. The amusing result (center picture) shows me flanked by my colleagues from Singapore and Venezuela. In the top snapshot I'm trying hard to plow a straight furrow. At bottom, my first taste of ice skating (it's never cold enough for ice in Malta) proved that stability is the important thing!

Adventures in Illinois flew by. Driving that new rented automobile down a road that never ended (all roads quickly terminate on my island) . . . touring New Salem and Springfield to see where the great Abraham Lincoln grew up . . . riding a beautiful palomino horse at the Eureka pumpkin festival . . . giving talks to several civic clubs (these clubs, I feel, are an excellent American idea).

Before I knew it, Christmas vacation had arrived. Another part of my dream suddenly came true—the chance to see the West. My Smith-Mundt Act scholarship generously paid for my transportation on this brief trip. Through the window of an airliner my camera caught a sunrise over the Rocky Mountains, then the immense Grand Canyon. I landed at night among a million lights at Los Angeles. Then up California's coast to San Francisco with its Golden Gate Bridge and Chinatown. What stories I collected for the school children back in Malta.

At Aberdeen, South Dakota, under the guiding hand of Superintendent of Schools C. H. Holgate, I visited all eight elementary schools, both junior highs, Central High School, and Northern State Teachers College. I gave an average of three talks at each place, attended a meeting of the School Board, talked to a PTA meeting, was interviewed by the local radio station and newspaper. A sports-minded teacher took me fishing on a frozen river. There we were, sitting on the fender of his car on the ice, dangling our lines through a hole!

Too soon, time was running out. But, returning to Washington, I visited another place I had always wanted to see—National Geographic Society headquarters. *Geographic School Bulletins* editors asked if I would describe my New World journey. This is my earnest attempt to tell how a dream came true.

NATIONAL GEOGRAPHIC PHOTOGRAPHER BATES LITTLEHALES

FELLOW teacher grantee from Japan dances at the International Talent Show. Held in Washington, it kicked off this year's foreign teacher program.

ILLINOIS STATE NORMAL UNIVERSITY

DURING the current school year, 325 teachers from 53 countries came as guests of the United States to observe New World teaching methods. This program, financed by Congress, is designed to make better friends overseas. Joseph P. Bondin (left), a grantee from Malta, tells how the program gave him an opportunity to discover America.

TEACHER ON U. S. SCHOLARSHIP FINDS

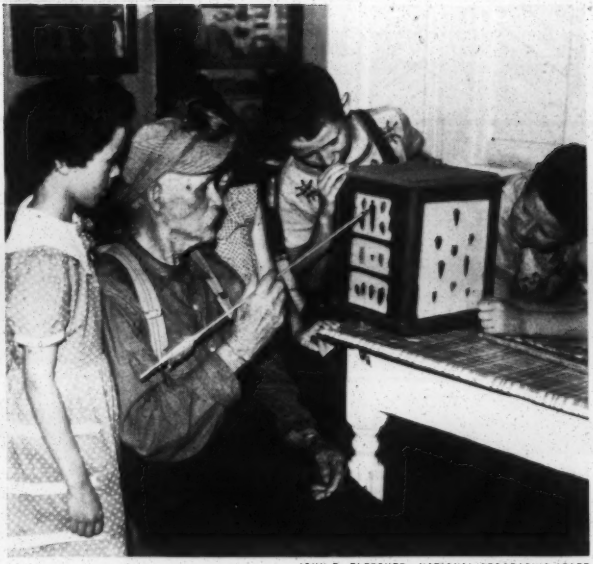
'Malta Was Never Like This!'

By Joseph P. Bondin

FOR me it was all a dream come true. On my tiny Mediterranean island home I had hoped all my life to visit the great United States. Being a teacher, I thought I knew all about America. I expected bigness. But when I arrived, I was almost overwhelmed by the cities, the distances, the crowds. Even the hospitality was big.

New York City's famous skyline was shrouded in fog the day my ship docked and I admit I was bewildered by Manhattan's taxi drivers. So I was happy to take the train to Washington to meet my sponsors at the Office of Education. Here, in a spacious auditorium, I listened with my fellow foreign teachers as our six-month program was unfolded before us. Three months would be spent learning educational techniques at a university. Several weeks of travel would show us the country. Finally, we would get a month of actual experience in schools of a typical community.

Before I could get used to Washington's unpredictable fall weather, I was off to my assigned college, Illinois State Normal University at Normal, Illinois. My academic program was quickly arranged by Dr. Chris DeYoung, our energetic coun-



JOHN E. FLETCHER, NATIONAL GEOGRAPHIC STAFF

INDIANS never seem far removed from farm life in Kansas. It's hard to plow the north forty without turning up an arrowhead — constant reminder that buffalo-hunting braves knew this land long before the first white settlers.

One homesteader, near Studley, worked up a collection of Indian relics. He shares his display with visiting youngsters, right, so keeping green the memory of the Wichita, Pawnee, Kiowa, Kansa, and other Plains tribes.

packing enterprises with walnut lumber processing. Automobiles roll from assembly lines. Kansans look to their capital, Topeka, for tires and meat products as well as government.

Transportation evolved in Kansas from early 19th-century wagon tracks to the Spanish city of Santa Fe. The state is now crossed by two important transcontinental federal highways. Some 8,500 miles of railroad track shoulder Kansas products into neighboring Colorado, Nebraska, Missouri, Oklahoma, and northward to Chicago's churning commercial pot.

Like farm folk everywhere, Kansans talk crops and live out-of-doors lives in temperatures averaging 54.9° F. But when they talk of tormenting weather, folks listen. Mercury dived 40 degrees below zero in 1905; sizzled at 121 degrees in 1936.

Kansans correctly call their home the heartland of America. They divide the state into three distinctive regions. The eastern part belongs to the vast Ameri-

RALPH GRAY, NATIONAL GEOGRAPHIC STAFF

JOHN E. FLETCHER, NATIONAL GEOGRAPHIC STAFF

KANSAS

Coronado Never Saw Its Gold

MARCHING northeastward from Mexico in 1541 hunting for gold, the Spanish explorer, Coronado, paid a first-recorded compliment to Kansas soil —"Very fat and black."

The United States couldn't agree more. Kansas lies in the heart of the Nation's breadbasket. Powerful machines and sun-browned farmers with sound agricultural college training provide Kansas flour for about one-sixth of the bread Americans eat.

Though but 13th in area among the states, Kansas ranks second in number of harvested acres—more than 48,500,000 in farmland and pasture. Annual gross farm cash receipts have frequently exceeded a billion dollars. And there's still ample elbow room for some 2,000,000 people. Coronado had found gold but didn't know it.

He would marvel at the abundances brought by plentiful sunshine, lengthy growing season, and level earth. Every county yields corn and wheat across a land that not long ago (as America counts) was roamed by 30 Indian tribes. Machinery or hands harvest cereal grains, sorghums, sugar beets, grapes, hay, alfalfa, soybeans, apples, strawberries, pears, peaches, and plums—meals from bread to desserts. Between rectangular state borders 200 miles long and 400 miles wide, rumble truck and freight car loads of fat cattle, hogs, turkeys, chickens, and dairy produce. Such farm output scarcely scratches the fat back of Kansas.

Boasting 31 basic minerals available in commercial quantity, Kansas rates among the top 10 mineral-producing states. Petroleum deposits marked by derricks abundantly spread, accounts heavily for the mineral wealth. Southeastern lead and zinc mines provide employment. Scales weigh off over 2,000,000 tons of soft coal annually from Kansas mines. Salt-mining machines grunt at an estimated five trillion tons below the "fat black" land.

Centuries ago, southwestern volcanoes blew volcanic ash across Kansas. It reaches your home in familiar cleaning compounds and cement. Natural gas, second leading mineral, bolsters southwest Kansas economy. The state stands with Texas as the Nation's source of helium, non-inflammable lifter of airships.

Enormous grain elevators like those near Salina (below) indicate the growth of plants and storage facilities complementing agriculture and mining. Diverse industries have lately blossomed. The state that people still associate with corn and wheat turns out kitchen equipment, farm machinery, and railroad trucks. Military and civilian aircraft take shape in Wichita, one of the world's biggest plane-producing cities.

Kansas City, Kansas, bordering Kansas City, Missouri, mingles enormous meat

JOHN E. FLETCHER, NATIONAL GEOGRAPHIC STAFF

Branding Iron Smoke Smells of Kansas History

can prairies. Pasturelands lie under bluestem grasses. Along its northeastern parts, Ice Age glaciers deposited a rich soil. Dense forests shade the northern side, and crops do well. Landscapes spread broad valleys, gentle uplands, limestone cliffs.

The second region, the more arid central plains, thrives on winter wheat and livestock.

Finally, the high plains of the west rise like a sliding board to about 4,000 feet at Colorado's ruler-straight eastern border. Wheat waves across this dry level land, beside scattered herds of beef cattle.

People hark back with the zest of Virginians, Californians, and New Englanders to those "great old days" of tradition. John Brown stalked through the eastern section of "bleeding Kansas" before it was a state. Quantrill's raiders kept the blood flowing during the Civil War. Hays, near the very heart of continental United States, was once a town to walk carefully in. Wild Bill Hickok rubbed buckskinned elbows with Buffalo Bill Cody. Trail-riding cowboys raised Cain. When gun smoke settled, victims rested in Boot Hill, a cemetery long ago engulfed by the growing, peaceful town.

Now, cow hands raise dust at places like Victoria, near Hays. Every year at roundup time (above) the brand of the P-Bar Ranch affixes ownership of calves.

Nearly a third of the state's land goes to livestock. Cattle is still king to men who have heard their fathers tell of Joseph G. McCoy. He brought the first Texas longhorns to Kansas in 1867 for later shipment to eastern markets by the Union Pacific Railroad. Enormous herds shuffled to Dodge City, Wichita, and Abilene, later to be the early home of President Eisenhower.

Such gun-slinging lawmen as Wyatt Earp and Matt Dillon kept order in the early cow towns, as every youthful television addict knows. They did a good job, judging by the well-behaved, prosperous look of Kansas these days. S. H.